

Application No.: 10/804,823

Docket No.: JCLA13060

AMENDMENTS

In The Claims:

Please amend the claims as follows:

1. (currently amended) A tungsten-inert-gas (TIG) welding equipment, comprising:
an electrode, for generating an electric arc between itself and a welded object;
a tubular inner nozzle, disposed surrounding the electrode; and
a tubular outer nozzle, disposed surrounding the inner nozzle, wherein
a first shielding gas comprising an inert gas can be supplied from the inner nozzle, and a
second shielding gas containing an oxidative gas can be supplied from between the inner nozzle
and the outer nozzle, and a concentration of the oxidative gas in the second shielding gas ranges
from 2000 vol. ppm to 6000 vol. ppm.

2. (currently amended) A TIG welding equipment, comprising:
an electrode, for generating an electric arc between itself and a welded object;
a tubular central nozzle, disposed surrounding the electrode; and
a plurality of side nozzles, disposed at least on two sides of the electrode as viewed in a
welding direction, wherein
a first shielding gas comprising an inert gas can be supplied from the central nozzle, and a
second shielding gas containing an oxidative gas can be supplied from the side nozzles, and a

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concentration of the oxidative gas in the second shielding gas ranges from 2000 vol. ppm to 6000 vol. ppm.

3. (currently amended) A TIG welding method, comprising:

generating an electric arc between an electrode and an object to weld the object, wherein a first shielding gas comprising an inert gas is conducted toward the welded object surrounding the electrode and a second shielding gas containing an oxidative gas is conducted toward the welded object along a periphery of the first shielding gas, and a concentration of the oxidative gas in the second shielding gas ranges from 2000 vol. ppm to 6000 vol. ppm.

4. (currently amended) A TIG welding method, comprising:

generating an electric arc between an electrode and an object to weld the object, wherein a first shielding gas comprising an inert gas is conducted toward the welded object surrounding the electrode and a second shielding gas containing an oxidative gas is conducted toward the welded object from at least two sides of the electrodes as viewed in a welding direction, and a concentration of the oxidative gas in the second shielding gas ranges from 2000 vol. ppm to 6000 vol. ppm.

Claims 5-6 (canceled)

7. (currently amended) The TIG welding method of claim 3, wherein ~~a~~ the concentration of the oxidative gas in the second shielding gas ranges from 3000 vol. ppm to 5000 vol. ppm.

8. (currently amended) The TIG welding method of claim 4, wherein ~~a~~ the concentration of the oxidative gas in the second shielding gas ranges from 3000 vol. ppm to 5000 vol. ppm.

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9. (currently amended) The TIG welding method of claim 3, wherein ~~a~~ the concentration of the oxidative gas in the second shielding gas is set so that an oxygen concentration in a welded metal portion of the welded object ranges from 70 wt. ppm to 220 wt. ppm.

10. (currently amended) The TIG welding method of claim 4, wherein ~~a~~ the concentration of the oxidative gas in the second shielding gas is set so that an oxygen concentration in a welded metal portion of the welded object ranges from 70 wt. ppm to 220 wt. ppm.

11. (currently amended) The TIG welding method of claim ~~5~~ 3, wherein an oxide coating formed on a surface of a welded metal portion of the welded object has a thickness of 20 μm or less.

12. (currently amended) The TIG welding method of claim ~~6~~ 4, wherein an oxide coating formed on a surface of a welded metal portion of the welded object has a thickness of 20 μm or less.

13. (original) The TIG welding method of claim 7, wherein an oxide coating formed on a surface of a welded metal portion of the welded object has a thickness of 20 μm or less.

14. (original) The TIG welding method of claim 8, wherein an oxide coating formed on a surface of a welded metal portion of the welded object has a thickness of 20 μm or less.

15. (original) The TIG welding method of claim 9, wherein an oxide coating formed on a surface of the welded metal portion has a thickness of 20 μm or less.

16. (original) The TIG welding method of claim 10, wherein an oxide coating formed on a surface of the welded metal portion has a thickness of 20 μm or less.

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17. (new) The TIG welding equipment of claim 1, wherein a tip of the electrode is more protrudent than a tip of the tubular inner nozzle in a tip direction of the electrode and the tubular inner nozzle.

18. (new) The TIG welding equipment of claim 2, wherein tips of the side nozzles are more protrudent than a tip of the tubular central nozzle in a tip direction of the side nozzles and the tubular central nozzle.